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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/506,559	09/02/2004	Jonathan James Westhall	04-708	1300

20306 7590 02/07/2008  
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EXAMINER

PENG, CHARLIE YU

ART UNIT	PAPER NUMBER
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2883

MAIL DATE	DELIVERY MODE
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02/07/2008

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	Application No. 10/506,559	Applicant(s) WESTHALL ET AL.	
	Examiner Charlie Y. Peng	Art Unit 2883	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 13 November 2007.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 60-98 is/are pending in the application.
- 4a) Of the above claim(s) 68-80 and 83-98 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 60-67, 81 and 82 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 02 September 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Response to Arguments***

Applicant's arguments with respect to claim 60-67, 81 and 82 have been considered. The claims as amended overcome the previous rejection of Brown in view of Bobb, but all arguments are moot in view of the new ground(s) of rejection.

Please see rejections below for details.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 60-67, 81 and 82 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 5,475,216 to Danver et al. in view of U.S. Patent 5,639,968 to Bobb et al. Danver teaches a fiber optic sensor that responds to underwater perturbations such as acoustic wavefronts by producing a phase difference in two light beams propagated by fiber optic material, comprising:

a plurality of optical fiber sensor coils 36, 42, 50, 52, 60, 62 longitudinally spaced on a supporting tube 12; wherein the sensor coils are made by winding a sensing fiber 20 around the supporting tube 12; wherein the fiber sensor coils are coupled by regions where the sensing fiber 20 is wound a pitch much greater than the pitch of the coils;

Danver's invention is designed to determine the magnitude of the acoustic disturbance that generates an optical signal and not to act as a fiber failure sensor.

Bobb teaches an improved optical fiber strain-to-failure sensor. Bobb notes that "(m)ost optical fibers will not fail until they have reached a strain level in the range of 20,000 to 30,000 microstrain, yet structures may fail at strain levels as low as 2000 to 3000 microstrain." (col. 1, lines 38-41) Bobb teaches a modified optical fiber sensor (Fig. 1) whose lengths and cross-sectional areas are sized so that the optical fiber has a strain failure point equal to a predetermined amount of strain.

It therefore would have been obvious to one of ordinary skill in the art at the time the invention was made to use the optical fiber strain-to-failure sensor as suggested by Bobb to modify Denver's invention so that one may, by observing whether the optical fiber has failed, establish whether the structural member has exceeded the predetermined amount of strain and/or faces impending failure.

With respect to the "when said support member is bent away from the elongated axis" clause, while features of an apparatus may be recited either structurally or functionally, claims directed to an apparatus must be distinguished from the prior art in terms of structure rather than function. *In re Schreiber*, 128 F.3d 1473, 1477-78, 44 USPQ2d 1429, 1431-32 (Fed. Cir. 1997) A recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. Since it has been shown that one of ordinary skill in the art would find it obvious to establish any predetermined strain, including that caused by bending of the structural member, the rejection meets the claim. (See MPEP 2111 [R-1])

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With specific reference to claim 61, though Danver and Bobb et al. does not specify the structural element can be bent to a curve having a radius of at least half a meter without the optical fiber's failing, it would have been obvious to one having ordinary skill in the art at the time the invention was made to determine a range of bending so as to calculate the predetermined failing strain for the purpose of, for example, not allowing excessive bending to destroy the aesthetic appearance of the structural member or other functionalities, since applicant has not provided any criticality to invention of this range and further since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or working range involves only routine skill in the art. *In re Aller*, 105 USPQ 233. The rejection may be overcome by a showing of unexpected results.

With specific reference to claims 62, 64 and 65, though Danver and Bobb et al. do not specify the material It would have been obvious to one having ordinary skill in the art at the time the invention was made to use a material having properties best fitted for this application, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416. The motivation may be one's need to choose a structural member having a memory of its original shape (flexible), a high tensile strength (steel), or a light weight yet strong material (carbon fiber).

### ***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

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§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Charlie Y. Peng whose telephone number is (571) 272-2177. The examiner can normally be reached on 9 am - 6 pm M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Frank G. Font can be reached on (571) 272-2415. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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